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Amendments to and Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-2. (Cancelled).

3. (Currently Amended) A spatial scalable video decoder, comprising:

an upsampler for upsampling a low resolution prediction residual to form an upsampled prediction residual;

a motion compensator for forming a motion compensated full resolution prediction; [[and]]

an adder, in signal communication with said upsampler and said motion compensator, for adding the upsampled prediction residual to the motion compensated full resolution prediction to form a <u>full resolution</u> decoded image block[[.]];

a second motion compensator for forming a motion compensated low resolution prediction; and

a second adder, in signal communication with said second motion compensator, for adding the low resolution prediction residual to the motion compensated low resolution prediction to form a low resolution decoded image block.

4. (Currently Amended) The spatial scalable video decoder of claim 3, wherein said adder comprises:

a first adder, in signal communication with said upsampler and said motion compensator, for adding the upsampled prediction residual to the motion compensated full resolution prediction to form a sum signal; and

a second third adder, in signal communication with said first adder, for adding a full resolution enhancement layer error signal to the sum signal to form [[a]] the full resolution decoded image block.

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5. (Original) The spatial scalable video decoder of Claim 4, wherein the full resolution enhancement layer error signal is intra coded.

6. (Currently Amended) A spatial scalable video decoder for decoding a video bitstream of an image block, comprising:

an entropy decoder for decompressing a receiver for receiving a low resolution prediction residual from the video bitstream;

a processor for forming a low resolution decoded image block in responsive to the low resolution prediction residual;

-an inverse quantizer/inverse transformer, in signal communication with said entropy decoder, for inverse quantizing and inverse transforming the decompressed bitstream to form a coded-prediction residual;

an upsampler, in signal communication with said inverse quantizer/inverse transformer, for upsampling the coded low resolution prediction residual to form an upsampled prediction residual; and

a second processor for forming a full resolution decoded image block in responsive to the upsampled prediction residual.

a motion compensator, in signal communication with said entropy decoder, for forming a motion compensated prediction full resolution prediction; and

an-adder, in signal communication with said upsampler and said motion compensator, for adding the upsampled prediction residual to the motion compensated full resolution prediction to obtain a decoded image block.

7. (Currently Amended) A spatial scalable video <u>decoding system decoder</u> for decoding a base layer video bitstream and an enhancement layer video bitstream of an image block, comprising:

a base layer decoder, including:

an entropy decoder for decompressing [[the]] a base layer video bitstream;

an inverse quantizer/inverse transformer, in signal communication with said entropy decoder, for inverse quantizing and inverse transforming the base layer video bitstream and the

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enhancement layer video bitstream to form a coded base layer prediction for forming a low resolution prediction residual;

a motion compensator for forming a motion compensated low resolution prediction; and an adder, in signal communication with said motion compensator, for adding the low resolution prediction residual to the motion compensated low resolution prediction to form the base layer of the image block, and

an enhancement layer decoder, including:

a second entropy decoder for decompressing the base layer video bitstream;

a second inverse quantizer/inverse transformer, in signal communication with said second entropy decoder, for forming a second low resolution prediction residual, the second low resolution prediction residual being the same as the low resolution prediction residual formed by the base layer decoder;

an upsampler, in signal communication with said <u>second</u> inverse quantizer/inverse transformer, for upsampling the <u>second</u> <u>eoded base layer prediction</u> low resolution <u>prediction</u> residual to form an upsampled <u>base layer</u> prediction residual;

a <u>second</u> motion compensator, in signal communication with said <u>second</u> entropy decoder, for forming a motion compensated <u>prediction</u> full resolution prediction; <u>and</u>

a first second adder, in signal communication with said upsampler and said second motion compensator, for adding the motion compensated full resolution prediction to the upsampled base layer prediction residual to form the enhancement layer of the image block. a sum signal;

another entropy decoder for decompressing the enhancement layer-video bitstream; another inverse quantizer/inverse transformer, in signal communication with said other entropy decoder, for inverse quantizing and inverse transforming the decompressed enhancement layer video bitstream to form a coded enhancement layer prediction full resolution residual; and

a second adder, in signal communication with said first adder, for adding the coded enhancement layer prediction full resolution residual to the sum signal to form a decoded image block.

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8. (Currently Amended) The spatial scalable video decoder decoding system of Claim 7, further comprising a deblocking filter, in signal communication with said second adder, for reducing blocking distortion of the enhancement layer of the image block.

9-13. (Cancelled).

14. (Currently Amended) A method for spatial scalable video decoding, comprising the steps of:

forming at least one of a full resolution decoded image block and a low resolution decoded image block using a low resolution prediction residual, wherein

the full resolution decoded image block is formed by:

upsampling [[a]] <u>the</u> low resolution prediction residual to form an upsampled prediction residual; and

forming a motion compensated full resolution prediction; and adding the upsampled prediction residual to the motion compensated full resolution prediction to form [[a]] the full resolution decoded image block, and

the low resolution decoded image block is formed by:

forming a motion compensated low resolution prediction; and

adding the low resolution prediction residual to the motion compensated low resolution prediction to form the low resolution decoded image block.

15. (Currently Amended) The method of claim 14, wherein said adding step comprises the steps of:

adding the upsampled prediction residual to the motion compensated full resolution prediction to form a sum signal; and

adding a full resolution enhancement layer error signal to the sum signal to form [[a]] the full resolution decoded image block.

16. (Original) The method of Claim 15, wherein the full resolution enhancement layer error signal is intra coded.

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17-18. (Cancelled).

19. (Currently Amended) The method of Claim [[18]] <u>14</u>, further comprising the step of reducing blocking distortion in the full resolution decoded image block.

20. (Original) The method of Claim 19, wherein said reducing step is responsive to enhancement layer mode signals.

21. (Cancelled).

22. (New) A method for spatial scalable video decoding, comprising the steps of: forming at least one of a base layer and an enhancement layer of an image block, using a low resolution prediction residual, wherein:

the enhancement layer of the image block is formed by:

decoding the low resolution prediction residual from a video bitstream; upsampling the low resolution prediction residual to form an upsampled prediction residual; and

forming the enhancement layer of the image block in responsive to the upsampled prediction residual, and

the base layer of the image block is formed by:

forming the base layer of the image block in responsive to the low resolution prediction residual.

23. (New) The spatial scalable video decoder of claim 3, further comprising: a motion vector resolution reducer for receiving decoded high resolution motion vectors included in a video bitstream and for reducing an accuracy of the high resolution motion vectors to form low resolution motion vectors, wherein the high resolution motion vectors are used to form the motion compensated full resolution prediction and the low resolution motion vectors are used to form the motion compensated low resolution prediction.

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24. (New) The spatial scalable video decoder of claim 6, further comprising:
a motion vector resolution reducer for receiving decoded high resolution motion vectors
included in a video bitstream and for reducing an accuracy of the high resolution motion vectors
to form low resolution motion vectors, wherein the high resolution motion vectors are used to
form the full resolution decoded image block and the low resolution motion vectors are used to
form the low resolution decoded image block.

25. (New) The spatial scalable video decoding system of claim 7, the enhancement layer decoder further comprising:

another entropy decoder for decompressing an enhancement layer video bitstream; another inverse quantizer/inverse transformer, in signal communication with said another entropy decoder, to form a full resolution enhancement layer error signal; and

a third adder, in signal communication with the second adder, for adding the full resolution enhancement layer error signal thereto to form the enhancement layer of the image block.

26. (New) The spatial scalable video decoding system of claim 7, the base layer decoder further including:

a motion vector resolution reducer for receiving decoded high resolution motion vectors included in the base layer video bitstream and for reducing an accuracy of the high resolution motion vectors to form low resolution motion vectors, the high resolution motion vectors being the same as motion vectors used by the enhancement layer decoder to form the motion compensated full resolution prediction, wherein the low resolution motion vectors are used to form the motion compensated low resolution prediction by the base layer decoder.

27. (New) The method for spatial scalable video decoding of claim 14, the step of forming the low resolution decoded image block further comprising:

receiving high resolution motion vectors included in a video bitstream; and

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reducing an accuracy of the high resolution motion vectors to form low resolution motion vectors, the high resolution motion vectors being the same as motion vectors used to form the motion compensated full resolution prediction, wherein the low resolution motion vectors are used to form the motion compensated low resolution prediction.

28. (New) The method for spatial scalable video decoding of claim 22, the step of forming the base layer of the image block further comprising:

receiving high resolution motion vectors included in a video bitstream; and reducing an accuracy of the high resolution motion vectors to form low resolution motion vectors, the high resolution motion vectors being the same as motion vectors used to form the enhancement layer of the image block, wherein the low resolution motion vectors are used to form the base layer of the image block.